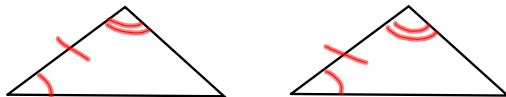


4-4 Prove Triangles Congruent by SAS and HL 4-5 ASA and AAS

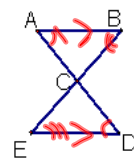
Theorem 4.5 HL (Hypotenuse-Leg)-If the hypotenuse and a leg of one right \triangle are \cong to the hypotenuse and one leg of another right \triangle , then the \triangle s are \cong .



Postulate 21 ASA-If 2 angles and the included side of one \triangle are \cong to 2 angles and the included side of another triangle, then the triangles are \cong .

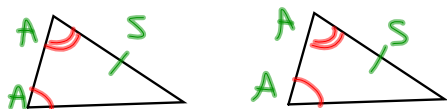


Given: $\overline{AB} \parallel \overline{ED}$; $\overline{AB} \cong \overline{ED}$
Prove: $\triangle ABC \cong \triangle DEC$



- | S. | R. |
|--|------------------------|
| ① \sim | ① Given |
| ② $\angle A \cong \angle D$
$\angle B \cong \angle E$ | ② Alt Int \angle thm |
| ③ $\triangle ABC \cong \triangle DEC$ | ③ ASA |

Theorem 4.6 AAS-If 2 angles and a non-included side of one Δ are \cong to 2 angles and a non-included side of another Δ , then the Δ s are \cong .



Given: $\angle K \cong \angle J$, $\overline{KL} \cong \overline{JM}$
 Prove: $\overline{LN} \cong \overline{MN}$

$\Delta KLN \cong \Delta JMN$

<p>S.</p> <p>① $\angle K \cong \angle J$ $\overline{KL} \cong \overline{JM}$</p> <p>② $\angle N \cong \angle N$</p> <p>③ $\Delta LNK \cong \Delta MNJ$</p> <p>④ $\overline{LN} \cong \overline{MN}$</p>	<p>R.</p> <p>① Given</p> <p>② Refl.</p> <p>③ AAS</p> <p>④ CPCTC</p>
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The diagram shows two triangles, ΔKLN and ΔJMN , sharing a common vertex N . Sides \overline{KL} and \overline{JM} are marked with green tick marks, and angles $\angle K$ and $\angle J$ are marked with red arcs. A smaller diagram shows the triangles after reflection, with \overline{LN} and \overline{MN} marked with red tick marks.

Given: $\overline{WO} \parallel \overline{LD}$; R is the midpoint of \overline{WL}
 Prove: $\overline{OR} \cong \overline{DR}$

<p>S.</p> <p>① $\overline{WO} \parallel \overline{LD}$</p> <p>② $\angle O \cong \angle D$ $\angle W \cong \angle L$</p> <p>③ $\overline{WR} \cong \overline{LR}$</p> <p>④ $\Delta WOR \cong \Delta LDR$</p> <p>⑤ $\overline{OR} \cong \overline{DR}$</p>	<p>R.</p> <p>① Given</p> <p>② Alt Int \angles then</p> <p>③ def of midpt</p> <p>④ AAS</p> <p>⑤ CPCTC</p>
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The diagram shows two triangles, ΔWOR and ΔLDR , sharing a common vertex R . Sides \overline{WR} and \overline{LR} are marked with blue tick marks, and angles $\angle O$ and $\angle D$ are marked with blue arcs. Angles $\angle W$ and $\angle L$ are also marked with blue arcs.

HW

p245-246 #s 35-37

p252-255 #s 3-5, 7, 33, 34